Distributed Air/Ground Traffic Management
CNS Cross-Cutting Session
OUTPUTS

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Chris Wargo, CNS Inc., (CO-CHAIR)

May 24, 2000

Free Flight/DAG-TM Workshop, NASA Ames, May 22-24

Distributed Air/Ground Traffic Management CNS Cross-Cutting Session

8:10	Introductions, Opening Remarks
8:20	"Communications Requirements" Bill Colligan, CSSI, Inc.
8:40	"Surveillance Tools for Distributed Air/Ground Traffic Management" Steven R. Bussolari, MIT Lincoln Laboratory
9:00	"Free Flight Advancements Using ADS-B Technology" Bradley Culbertson, Lockheed Martin Air Traffic Management
9:20	"GPS Modernization's Impact on Distributed Air/Ground Traffic Management" Hank Sielski, Computer Sciences Corporation
9:40	"Required Communications performance (RCP) – Key Metric for Information Exchange" Roy T Oishi, ARINC, Inc.
10:00	BREAK
10:10	Panel/ Group Discussion on CNS for DAG/TM Panel Members: Roy Oishi, Mark Ballin, Ed Thomas, Chris Wargo, Art Feinberg
11:30	Lunch
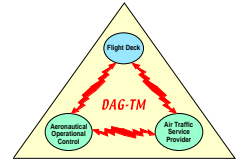
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Near term CNS initiatives which can enable DAG implementation:

C: CPDLC, VDL/NEXCOM and Satellite Communications
N: GPS Modernization, SNAV, WAAS, LAAS
S: ADS-B,ASDE(X)

Each has issues, risks, differing implementation schedules

NASA must be aware of and involved in these programs to insure
    infrastructure readiness for DAG

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Technology gaps still exist to enable implementation of DAG

C: More message sets, required communications performance (RCP), higher bandwidth, networking issues for seamless connectivity, etc.

What is the required range for intent information?

N: Required availability, LAAS

S: Technology implementation of ADS-B (Mode S, UAT, VDL-4), airport surface surveillance needs
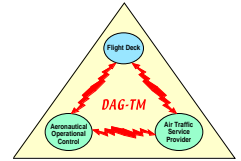
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Simulation and modeling is a cost effective R&D tool for CNS research for DAG feasibility assessment

The CE's need to consider their implementation requirements for CNS

Interplay between CNS and ATM: frequency congestion is a limiting factor in sector capacity- higher comm requirements may mitigate overall capacity gain

Cost of meeting required CNS performance vs. DAG benefits

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VISION for future of CNS:

Full automation, off-nominal human intervention

Take advantage of electronics and telecommunications explosion

Consistency with developments in Europe - Global
    interoperability

Convergence to low cost commercial technology and standards

ISSUES:

COST - CNS technology needed to implement DAG may be cost
    prohibitive

Transition from R&D to NAS implementation

Integrity and Security - issues which exist currently

CNS Workshop - Fall 2000 (Proposed)

Some possible workshop goals:

- Information exchange - current CNS research and technology development and recent results
- Determine current state of CNS research and technology development
  - What work is being done?
  - Coordination of work, potential collaborations
- Contribute to planning of NASA CNS research and technology development for current programs (AATT, DAG, AvSP)
- Identify key research/technology issues not currently being addressed
  - What new research programs for CNS are needed?
- Other?

Interest in attending and/or contributing to such a workshop?
Comments or suggestions as to workshop agenda?
Leave name & org or business card,
or e-mail: rkerczewski@grc.nasa.gov